

PROJECT DESCRIPTION
GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 404 AT LEGION ROAD IN CAROLINE COUNTY. MD 404 IS CONSIDERED TO RUN IN AN EAST/WEST DIRECTION.

INTERSECTION OPERATION

A CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL BE INSTALLED AT THIS LOCATION. THE INTERSECTION WILL OPERATE IN A FULLY ACTUATED MODE USING 8 NEMA PHASES. THERE WILL BE EXCLUSIVE LEFT TURN PHASES FOR BOTH THE EAST AND WESTBOUND MOVEMENTS OF MD 404. THE MD 404 THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY. THERE WILL BE EXCLUSIVE/ PERMISSIVE LEFT TURN PHASES FOR BOTH THE NORTH AND SOUTHBOUND MOVEMENTS OF LEGION ROAD. THE LEGION ROAD THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY.

THE EXISTING INTERSECTION LIGHTING POLES, ELECTRICAL SERVICE, AND CABLES ARE TO BE REMOVED. NEW INTERSECTION LIGHTING IS TO BE PROVIDED ON THE NEW TRAFFIC SIGNAL POLES.

ALL INTERNAL CABINET WIRING SHALL BE PERFORMED BY THE SHA SIGNAL SHOP. CONTRACTOR SHALL CONTACT ED RODENHIZER 72 HOURS PRIOR TO CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7635 TO ARRANGE FOR THE PHONE DROP INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET NUMBER, ZIP CODE, AND TELEPHONE NUMBER.

GENERAL NOTES

- VIDEO CAMERA LOCATION/ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER.
- THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE AND CABINET LOCATIONS PRIOR TO INSTALLATION.
- PAVEMENT MARKINGS DETAILED ARE PROPOSED AND ARE TO BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH MD-SHA STANDARDS. ALL OTHER PAVEMENT MARKINGS ARE TO BE CONSIDERED AS EXISTING.
- GEOMETRICS SHALL BE CONFIRMED PRIOR TO THE INSTALLATION OF SIGNAL EQUIPMENT. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
- ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.
- ALL UNUSED CABLE SHALL BE REMOVED.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

NONE.

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

QUANTITY	UNITS	DESCRIPTION
LUMP SUM	LS	MAINTENANCE OF TRAFFIC
LUMP SUM	LS	MOBILIZATION
1	EA	27 FT. STEEL MAST ARM POLE WITH 60 FT. MAST ARM
2	EA	27 FT. STEEL MAST ARM POLE WITH 70 FT. MAST ARM
1	EA	14 FT. STEEL POLE WITH BREAK-AWAY BASE
1	EA	STANDARD S.H.A. TRAFFIC SIGNAL CONTROLLER, BASE MOUNTED NEMA "S" CABINET, WITH UPS, VIDEO DETECTION INTERFACE, TELEMETRY INTERFACE EQUIPMENT, AND ONE (1) FOUR-CHANNEL LOOP DETECTOR AMPLIFIER [NOTES: CONTROLLER AND CABINET SHALL BE PURCHASED FROM ECONOLITE AND DELIVERED TO THE S.H.A. SIGNAL SHOP FOR WIRING AND TESTING. CONTACT MR. ED RODENHIZER (410) 787-7650]
4	EA	TERRA VIDEO DETECTOR CAMERA
900	LF	TERRA VIDEO DETECTOR CAMERA CABLE
4	EA	NON-INVASIVE PROBE (SET OF 3) WITH 1000 FT. LEAD-IN CABLE
6	EA	12 IN. 3-SECTION LED SIGNAL HEAD - MAST ARM
2	EA	12 IN. 3-SECTION LED SIGNAL HEAD (RA,YA,GA) - MAST ARM
2	EA	12 IN. 3-SECTION LED SIGNAL HEAD (RA,YA,GA) - SIDE POLE
2	EA	12 IN. 5-SECTION LED SIGNAL HEAD - MAST ARM
2	EA	12 IN. 5-SECTION LED SIGNAL HEAD - SIDE POLE
4	EA	20 IN. X VAR. D-3(1) SIGN - MAST ARM
2	EA	60 IN. X 48 IN. SHIELD ASSEMBLY -GROUND MOUNT
2	EA	96 IN. X 72 IN. SHIELD ASSEMBLY -GROUND MOUNT
2	EA	20 FT. LUMINAIRE ARM
2	EA	250W HPS LAMP AND LUMINAIRE

QUANTITY	UNITS	DESCRIPTION
5	CY	TEST PIT EXCAVATION
12	EA	HANDHOLE
30	LF	1-CONDUCTOR CABLE (NO. 8 AWG)
475	LF	2-CONDUCTOR TRAY CABLE (NO.12 AWG)
550	LF	5-CONDUCTOR CABLE (NO. 14 AWG)
2100	LF	7-CONDUCTOR CABLE (NO. 14 AWG)
375	LF	BARE COPPER GROUND WIRE (NO. 6 AWG)
265	LF	2 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
90	LF	2 IN. PVC CONDUIT [SCHEDULE 80] - BORED
850	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
145	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - BORED
300	LF	4 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
380	LF	4 IN. PVC CONDUIT [SCHEDULE 80] - BORED
19	CY	CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT
7	EA	GROUND ROD -3/4IN. X 10 FT. LENGTH
1	EA	EMBEDDED ELECTRICAL SERVICE PEDESTAL (100 AMPS)
125	LF	24 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - STOP LINE
60	LF	4 IN. X 4 IN. WOOD SIGN SUPPORTS
72	LF	4 IN. X 6 IN. WOOD SIGN SUPPORTS
LUMP SUM	LS	REMOVE EXISTING SIGNAL EQUIPMENT
LUMP SUM	LS	REMOVE EXISTING LIGHTING EQUIPMENT

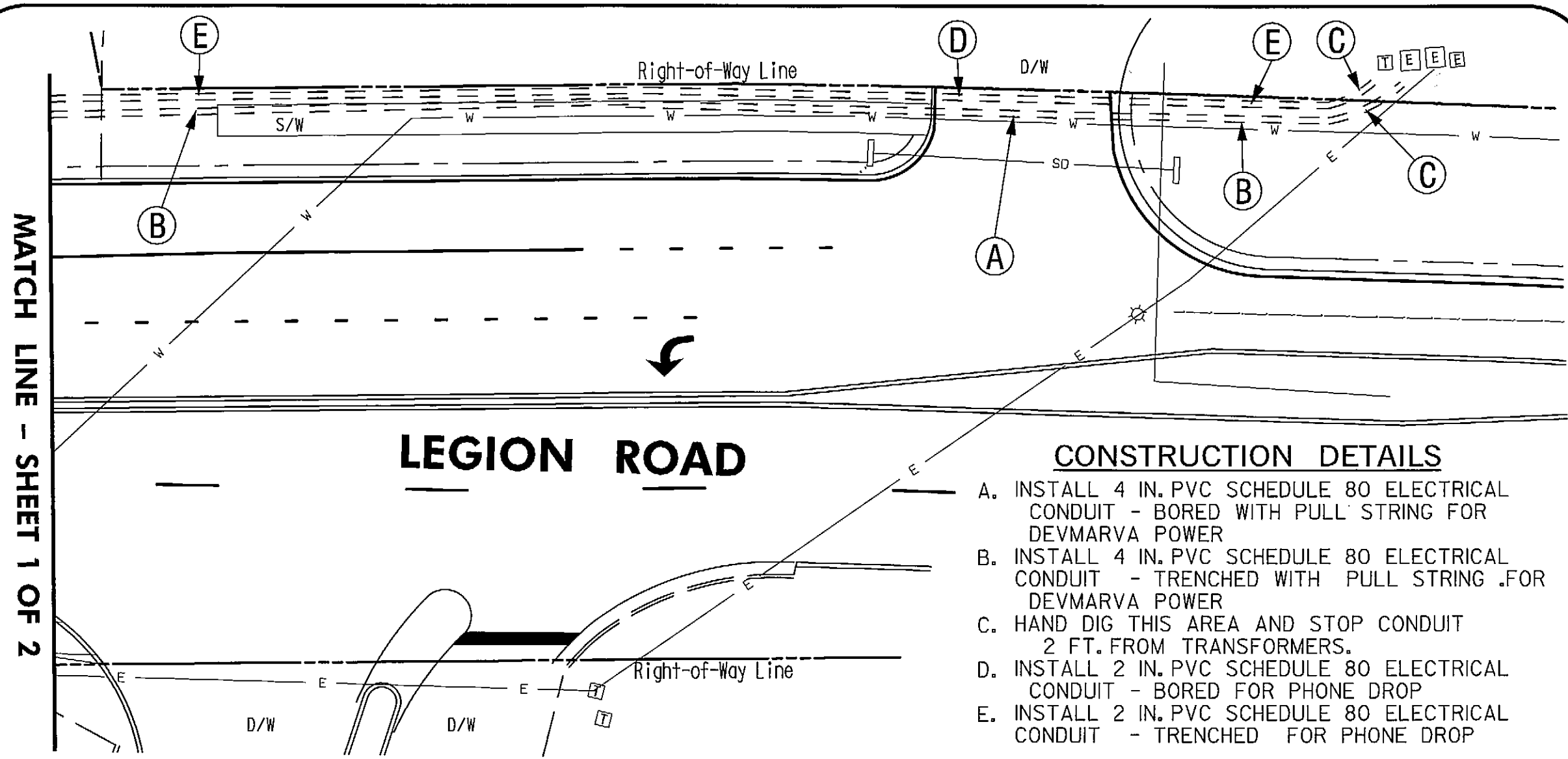
PROJECT CONTACTS:

MR. JEFFREY WENTZ,
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 810-3240
MR. NORRIS EMBERT,
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (410) 810-3270
MR. MIKE LEWIS,
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 398-1565
MR. BARRY CLOTHIER, UTILITY ENGINEER
PHONE: (410) 810-3275
MR. RICHARD L. DAFF, SR.,
CHIEF TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630
MR. EDWARD RODENHIZER,
SUPERVISOR, SIGNAL OPERATIONS
PHONE: (410) 787-7652

THE POWER COMPANY REPRESENTATIVE IS:

CURTIS A. KILMON
DELMARVA POWER
P.O. BOX 159
2600 CENTERVILLE ROAD
CENTERVILLE, MARYLAND 21617-0159
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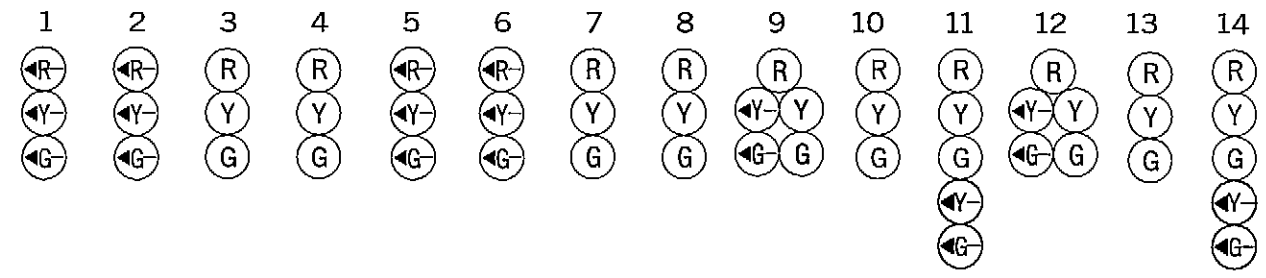
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"Merging Innovation and Excellence"®



CONSTRUCTION DETAILS

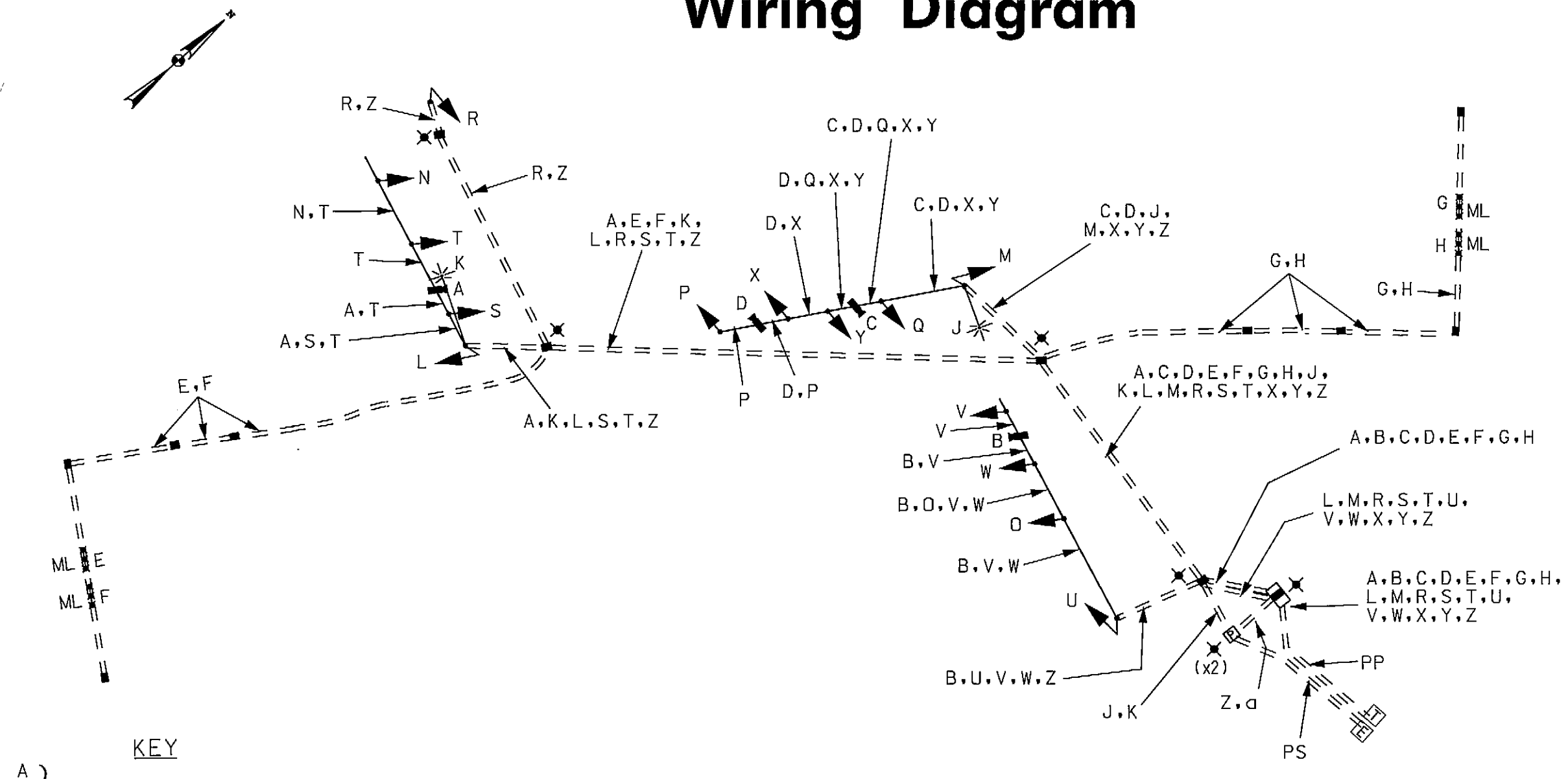
- INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - BORED WITH PULL STRING FOR DELMARVA POWER
- INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED WITH PULL STRING FOR DELMARVA POWER
- HAND DIG THIS AREA AND STOP CONDUIT 2 FT. FROM TRANSFORMERS.
- INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - BORED FOR PHONE DROP
- INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED FOR PHONE DROP

Phase Chart



PHASE 1 AND 5	←G-	←G-	R	R	←G-	←G-	R	R	R	R	R	R	R	R
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6														
PHASE 1 AND 6	←G-	←G-	G	G	←R-	←R-	R	R	R	R	R	R	R	R
1 CHANGE	←Y-	←Y-	G	G	←R-	←R-	R	R	R	R	R	R	R	R
PHASE 2 AND 5	←R-	←R-	R	R	←G-	←G-	G	G	R	R	R	R	R	R
5 CHANGE	←R-	←R-	R	R	←Y-	←Y-	G	G	R	R	R	R	R	R
PHASE 2 AND 6	←R-	←R-	G	G	←R-	←R-	G	G	R	R	R	R	R	R
2 AND 6 CHANGE	←R-	←R-	Y	Y	←R-	←R-	Y	Y	R	R	R	R	R	R
PHASE 3 AND 7	←R-	←R-	R	R	←R-	←R-	R	R	←GR	R	←GR	←GR	R	←GR
3 AND 7 CHANGE TO 3 AND 8, 4 AND 7, OR 4 AND 8														
PHASE 3 AND 8	←R-	←R-	R	R	←R-	←R-	R	R	←GG	G	←GG	R	R	R
3 CHANGE	←R-	←R-	R	R	←R-	←R-	R	R	←YG	G	←YG	R	R	R
PHASE 4 AND 7	←R-	←R-	R	R	←R-	←R-	R	R	R	R	R	←GG	G	←GG
7 CHANGE	←R-	←R-	R	R	←R-	←R-	R	R	R	R	R	←YG	G	←YG
PHASE 4 AND 8	←R-	←R-	R	R	←R-	←R-	R	R	G	G	G	G	G	G
4 AND 8 CHANGE	←R-	←R-	R	R	←R-	←R-	R	R	Y	Y	Y	Y	Y	Y
FLASHING OPERATION	FL/←R-	FL/←R-	FL/Y	FL/Y	FL/←R-	FL/←R-	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

Wiring Diagram



KEY

- A B C D VIDEO DETECTOR CABLE
- E F G H NON-INVASIVE MICRO-LOOP DETECTOR LEAD-IN CABLE
- J K 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
- L M 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- N O P Q 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (JUMPER WIRE)
- R S T U V 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- X BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- Z 1-CONDUCTOR (NO. 8 A.W.G.) (2 PIECES) FOR TRAFFIC SIGNAL ELECTRICAL SERVICE
- PS } PROPOSED UNDERGROUND ELECTRICAL SERVICE BY DELMARVA POWER
- ML } MICRO-LOOP DETECTOR (NON-INVASIVE)
- PP } PROPOSED PHONE SERVICE BY Verizon
- X } PROPOSED GROUNDING ROD



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 404 (SHORE HIGHWAY) AND LEGION ROAD

DENTON, MARYLAND

GENERAL INFORMATION PLAN

SCALE N/A DATE SEPT 9, 2011 CONTRACT NO. BW996M82

DESIGNED BY FRANK HOECKEL COUNTY CAROLINE
DRAWN BY FRANK HOECKEL LOGMILE 05040409.30
CHECKED BY *Renzi 9/12/11* TMS NO. K-413
F.A.P. NO. N/A TOD NO.

TS NO. G-12400C DRAWING SG - 01 OF 01 SHEET NO. 6 OF 6

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